YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

SITE PROFILE

December 1999

Office of Oversight
Environment, Safety and Health
U.S. Department of Energy

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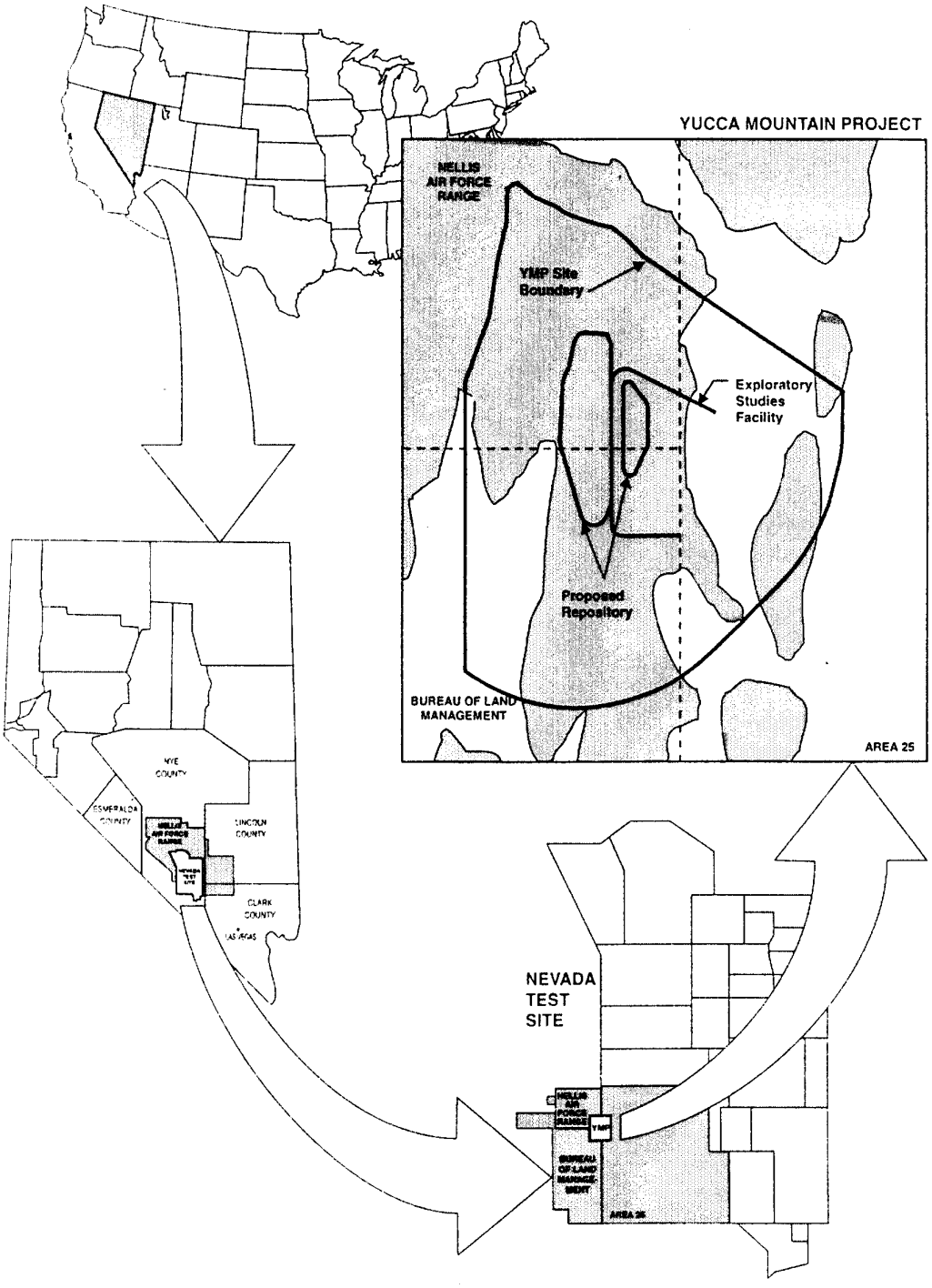
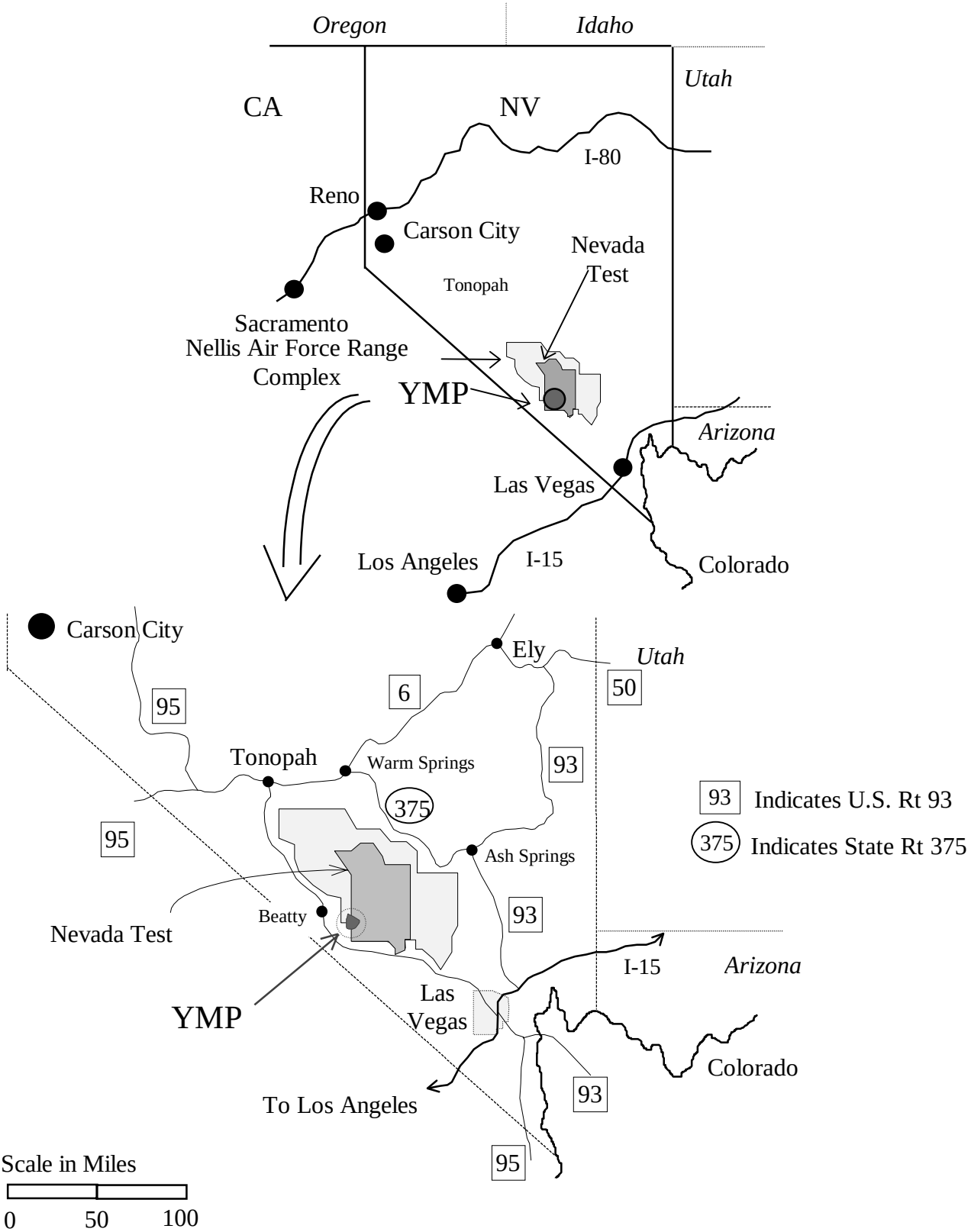
Site profiles provide information on Department of Energy sites, including background; major environment, safety, and health programs initiatives and activities; items for management attention; and performance.

The electronic version of this site profile and other Office of Oversight documents referenced in this document can be accessed through the Internet at **http://www.tis.eh.doe.gov/oversight**.

Comments regarding the contents of this document should be directed to Vince Moskaitis at 301-903-5225, or via the Internet at **vince.moskaitis@eh.doe.gov**.

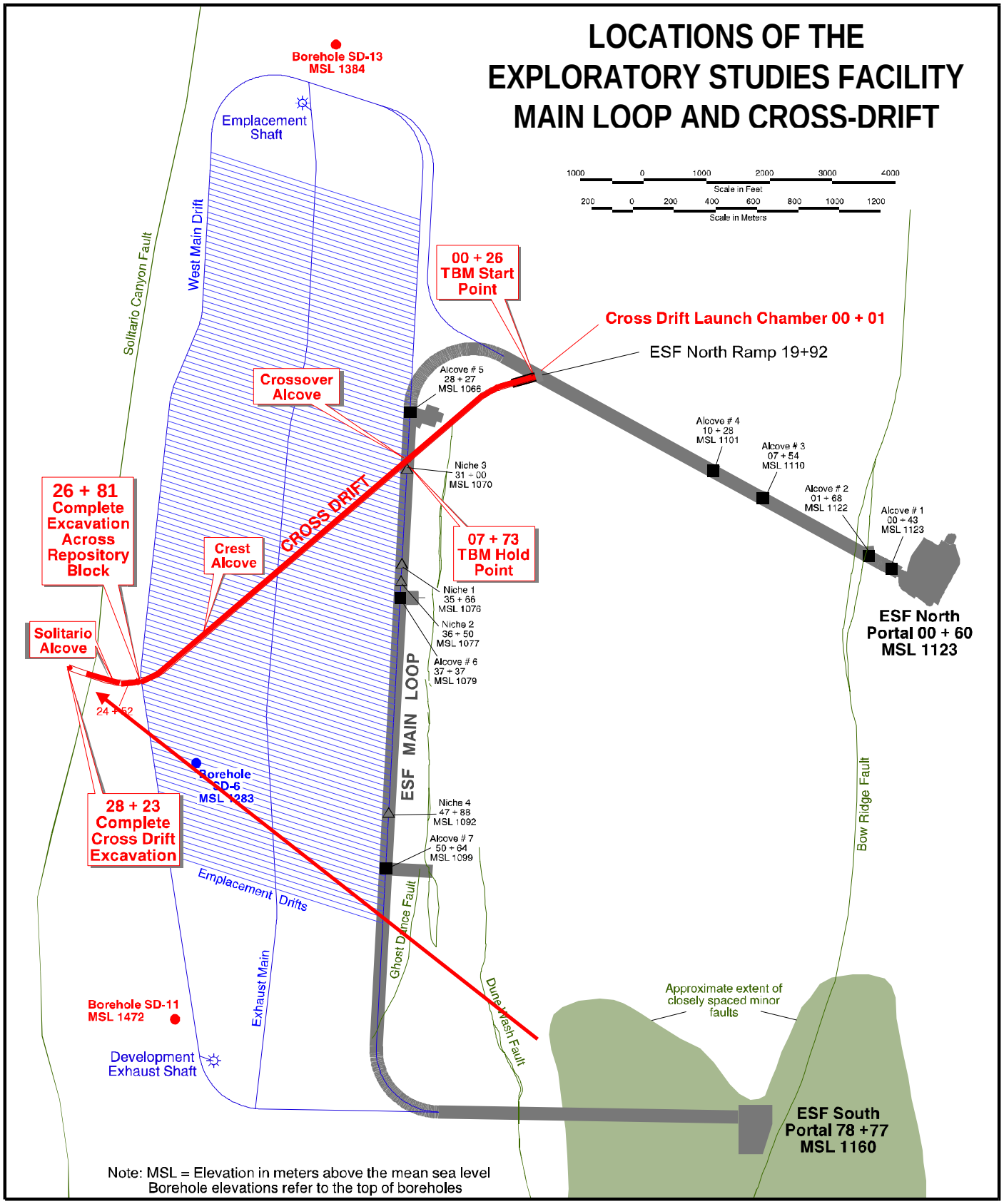


Yucca Mountain Site Location



Yucca Mountain Site Map

December 1999


LOCATIONS OF THE
EXPLORATORY STUDIES FACILITY
MAIN LOOP AND CROSS-DRIFT
Scale in Feet
Scale in Meters
Borehole SD-13
MSL 1384
Emplacement Shaft
West Main Drift
Solitario Canyon Fault
00 + 26
TBM Start
Point
Cross Drift Launch Chamber 00 + 01
ESF North Ramp 19+92
Crossover
Alcove
Alcove # 5
28 + 27
MSL 1068
Alcove # 4
10 + 28
MSL 1101
Alcove # 3
07 + 54
MSL 1110
Alcove # 2
01 + 68
MSL 1122
Alcove # 1
00 + 43
MSL 1123
Niche 3
31 + 00
MSL 1070
26 + 81
Complete
Excavation
Across
Repository
Block
CROSS DRIFT
Crest
Alcove
07 + 73
TBM Hold
Point
Niche 1
35 + 66
MSL 1076
Niche 2
36 + 50
MSL 1077
Alcove # 6
37 + 37
MSL 1079
ESF North
Portal 00 + 60
MSL 1123
Solitario
Alcove
24 + 52
ESF MAIN LOOP
Borehole
SD-6
MSL 1283
28 + 23
Complete
Cross Drift
Excavation
Niche 4
47 + 88
MSL 1092
Alcove # 7
50 + 64
MSL 1099
Emplacement Drifts
Ghost Dance Fault
Bow Ridge Fault
Exhaust Main
Dune Wash Fault
Approximate extent of
closely spaced minor
faults
Borehole SD-11
MSL 1472
Development
Exhaust Shaft
ESF South
Portal 78 +77
MSL 1160
Note: MSL = Elevation in meters above the mean sea level
Borehole elevations refer to the top of boreholes

YUCCA MOUNTAIN SITE CHARACTERIZATION PROJECT

BACKGROUND

Description

The Yucca Mountain Site Characterization Project (YMP) is located on federally owned land, situated approximately 100 miles northwest of Las Vegas, Nevada. YMP utilizes portions of three land areas for site characterization. The first area consists of 54,000 acres located in Area 25 of the Nevada Test Site (NTS) reserved for YMP by a memorandum of agreement (MOA) between the Yucca Mountain Site Characterization Office (YMSCO) and the Department of Energy (DOE) Nevada Operations Office (NV). The second area consists of 51,790 acres administered by the Bureau of Land Management (BLM). The third area consists of 18,700 acres located on Nellis Air Force Base (NAFB). Access to the NAFB and BLM lands was granted to DOE by a right-of-way agreement.

In 1982, Congress established the Nuclear Waste Policy Act (NWPA), a national policy to solve the problem of nuclear waste disposal. The NWPA made the DOE responsible for finding a site and building and operating an underground disposal facility called a geologic repository. The recommendation to use a geologic repository dates back to 1957, when the National Academy of Sciences recommended that the best means of protecting the environment and public health and safety would be to dispose of the waste in rock deep underground.

In 1983, the DOE selected nine locations in six states for consideration as potential repository sites, based on data collected for nearly ten years. Results of preliminary studies at these sites were reported in 1985. Based on these reports, the President approved three sites for an intensive scientific study (geology, hydrology, biology, and climate) called site characterization. The three sites were Hanford, Washington; Deaf Smith County, Texas; and Yucca Mountain, Nevada.

In 1987, Congress amended the NWPA and directed DOE to study only Yucca Mountain. The Act stressed that if, at any time, Yucca Mountain is found unsuitable, studies will be stopped immediately. If that happens, the site would undergo decommissioning and reclamation, and DOE would be responsible for preparing a report to Congress with its recommendations for further action to ensure the safe permanent disposal of spent nuclear fuel and high-level radioactive waste, including the need for new legislative authority.

DOE has been studying the site at Yucca Mountain for 17 years to determine whether it is a suitable place to build a monitored, underground, geologic repository for the nation's commercial and defense spent nuclear fuel and high-level radioactive waste. Site characterization efforts, now coming to a close, include surface and subsurface testing and modeling of the geologic setting, and involve drilling and construction of an underground Exploratory Studies Facility (see Exploratory Studies Facility Cross-Drift Progress diagram).

In 1996, DOE announced that it would prepare a viability assessment of the Yucca Mountain site. In the 1997 Appropriations Act, Congress required DOE to prepare the viability assessment to provide Congress, the President, and the public with information on the progress of the project. On December 18, 1998, the Secretary of Energy submitted the completed viability assessment to the President and the Congress. The viability assessment identifies critical issues that need to be addressed before the Secretary of Energy decides whether to recommend the Yucca Mountain site for development as a repository.

According to the current plan, which is contingent on appropriations, the Secretary of Energy will formally evaluate the site in 2001, and following the process prescribed in the NWPA, after considering the views of States, Indian tribes, and the Nuclear Regulatory Commission (NRC), the Secretary will decide whether to recommend the site to the President for repository development. In turn, the President will decide whether to recommend the site to Congress. If Congress agrees with the President's recommendations and the site is designated, DOE plans to submit the license application to NRC in 2002. To support these plans, YMP will: (1) obtain more information on key natural processes, including how radionuclides could be transported by groundwater beneath the repository; (2) test the performance of candidate waste package materials and repository designs; (3) continue analyzing the interaction between the repository and natural processes; and (4) prepare the final environmental impact statement (EIS).

Mission

YMP's mission is to provide the basis for a national decision regarding the development of an underground repository at Yucca Mountain for the disposal of spent nuclear fuel and high-level radioactive waste.

Management

The lead program secretarial office is the Office of Civilian Radioactive Waste Management (RW), which is responsible for implementing the NWPA. No other secretarial office maintains programs on the site; however, NV provides landlord services for project activities in Area 25 to the YMP through an MOA.

The YMP has more than 2100 employees, including approximately 110 DOE employees at YMSCO to provide direction and oversight for project activities.

The YMSCO Office of Project Execution (OPE) is the line management organization responsible for executing major project deliverables, field investigations, and site operations. Environment, safety, and health (ES&H) experts have been assigned to OPE to ensure that ES&H requirements are integrated into work planning and execution processes.

The YMSCO Office of Licensing and Regulatory Compliance (OL&RC) is responsible for the development of key regulatory products, including the repository EIS, site recommendation and license application. OL&RC is also responsible for environmental policy and program direction, external interfaces, and regulatory negotiations. Overall, safety policy, including that for integrated safety management, is established and directed at the Project Manager's level.

An Office of Quality Assurance (OQA) Program Assessment Team (PAT) was created to expand self- and independent assessment capabilities. The PAT is responsible for overseeing and conducting assessments of the operations and processes associated with the YMP, including those affecting ES&H, safeguards and security, and management systems in general. The PAT reports to the Deputy Director, OQA, RW.

Finally, a new position, reporting directly to the Project Manager, was created. The Special Assistant to the Project Manager for Safety Management provides overall safety management policy, direction, and guidance, and also provides senior management with feedback on overall safety performance.

Table 1 shows the principal DOE and contractor organizations at YMP.

Table 1. Principal Headquarters Program Office and Contractors

Office of Civilian Radioactive Waste Management (OCRWM)
Yucca Mountain Site Characterization Office (YMSCO) Overall program management
TRW Environmental Safety Systems Management and operating (M&O) contractor
Booz-Allen Management technical services
Jason Technologies Corporation EIS development support

YMSCO is supported by personnel from TRW Environmental Safety Systems, the management and operating (M&O) contractor; Booz-Allen, a management technical services contractor; and Jason Technologies Corporation, an EIS development support contractor. YMSCO retains sole responsibility and authority for authorization of work.

The M&O contractor is responsible for performing design and analyses of the Civilian Radioactive Waste Management System (CRWMS); providing siting, design, and licensing services for the RW-managed storage facility and the proposed geologic repository; developing the transportation system; supporting environmental compliance and field programs (including meteorology and radiological monitoring and radiological, sociological, and environmental programs); gaining land access; supporting work associated with material laboratory analyses; performing field surveys; maintaining the planning and control system; and operating the technical database for all Yucca Mountain physical information. The TRW contract is a cost plus award fee contract that runs from February 12, 1991, to February 11, 2001, with one five-year renewal option.

Budget

The information appearing in this section has been gathered from a number of sources and represents the best available budget information at the time of profile publication. This information is dynamic, depending on the point in the budget cycle at which it is obtained. It is included to provide the reader with a sense of the magnitude and sources of the budget for this site. It is not intended to be the definitive source of budget information.

The FY 1999 budget appropriation was approximately $354 million, while the appropriation for FY 2000 is approximately $352 million.

Table 2. YMP Funding Summary

Organization	FY 1999 Adjusted	FY 2000 Request
Office of Civilian Radioactive Waste Management (RW)	$354,000,000	$352,000,000

Source: YMP Budget Request

Significant Commitments to Stakeholders

Federal Agencies

Interagency agreements between DOE, the U.S. Geological Survey (USGS), and the U.S. Bureau of Reclamation establish working relationships. Although YMP tunneling activities are not regulated by the Mine Safety and Health Administration (MSHA), an interagency agreement and memorandum of understanding with MSHA provides YMSCO with technical

resources as needed and periodic compliance assistance visits. YMSCO maintains regulatory compliance liaison with the Environmental Protection Agency (EPA), the NRC, the U.S. Department of the Interior National Park Service, the U.S. Fish and Wildlife Service, the BLM, and the U.S. Natural Resources and Conservation Service.

State Agencies

YMSCO coordinates with the following state agencies: Nevada Division of Environmental Protection, Nevada Health Division, and the Nevada State Water Engineer. YMSCO interacts with counties and with 17 Native American tribes and organizations. YMSCO also coordinates with the Advisory Council for Historic Preservation, which sends reports to the State Historical Preservation Officer.

Nuclear Power Plants

The Nuclear Waste Policy Act requires that the Department enter into contracts with utilities that generate spent nuclear fuel. The Act further requires that these contracts provide that, in return for payment by the utilities of fees into the Nuclear Waste Fund, the Department will begin disposal of the utilities' spent fuel no later than January 31, 1998. The Department entered into disposal contracts with all civilian U.S. utilities as required by the NWPA. However, lacking a repository or storage facility constructed under the NWPA, the Department is unable to initiate disposal of spent fuel at this time and is presently scheduled to commence disposal operations in 2010.

A group of utilities and State agencies filed suit against the Department for its delay in commencing spent fuel acceptance. The court found that the Department has an unconditional obligation to initiate waste acceptance by January 31, 1998, and pointed to the "delays" clause in the disposal contracts as the means for addressing any harm that may result from the Department's delay. Nonetheless, several utilities have brought suit against the Department in both the Court of Appeals and the Court of Federal Claims. The Government has argued that these utilities must first exhaust administrative remedies at the Department under the "delays" clause before filing suit in court.

Nuclear Waste Technical Review Board

Congress created the Nuclear Waste Technical Review Board (NWTRB) as an independent group to evaluate the technical and scientific validity of DOE's program to manage the disposal and storage of the nation's high-level radioactive waste and spent nuclear fuel. Specifically, the NWTRB is charged with evaluating DOE's site characterization activities at Yucca Mountain, as well as activities relating to repository design and to the packaging and transport of spent fuel and high-level radioactive waste.

At least twice per year, the NWTRB submits a report to Congress and the Secretary of Energy with their findings, conclusions, and recommendations. In their most recent report, Moving Beyond the Yucca Mountain Viability Assessment, issued in April 1999, the NWTRB stated that OCRWM has made considerable progress in characterizing the Yucca Mountain site. The NWTRB stated that Yucca Mountain continues to merit study as the candidate site for a permanent geological repository and that work should proceed to support a decision on whether to recommend the site to the President for development. The report did not include any issues relating to ES&H matters associated with YMP. The NWTRB continues to independently evaluate DOE's repository program.

Additional NWTRB information and reports can be accessed through the Internet at **http:// www.nwtrb.gov**.

MAJOR ENVIRONMENT, SAFETY, AND HEALTH INITIATIVES/ ACTIVITIES

Repository Environmental Impact Statement

The EIS will evaluate potential impacts from construction, operation and monitoring, and, eventually, closure of a repository at Yucca Mountain. The EIS will also assess impacts from shipping high-level radioactive waste and spent nuclear fuel to the repository, as well as potential impacts from developing transportation capabilities in Nevada.

On August 7, 1995, a notice of intent (NOI) to prepare the EIS was published in the Federal Register. Fifteen public scoping meetings were conducted between August 7 and October 24, 1995. Approximately 1000 public comment documents were submitted during the scoping period.

The public scoping period ended December 5, 1995. Congress enacted budgetary restrictions in FY 1996, resulting in deferral of further EIS activities for the remainder of FY 1996. On October 1, 1996, YMSCO resumed EIS activities through the award of a contract to Jason Technologies Corporation to support EIS development. A public comment summary document was issued in July 1997, presenting the issues identified during the scoping process and the anticipated approach for addressing the issues in the draft EIS.

The draft EIS was released in August 1999, beginning a 180-day public comment period, including 17 public hearings held throughout the United States. The final EIS is scheduled to be released in November 2000. RW's submittal of a proposed site recommendation to the Secretary of Energy, and the Secretary's issuance of a final site recommendation to the President, would follow. The schedule for preparing the EIS is integrated with the overall program plan, including activities associated with the total system performance assessment, site recommendation, and license application.

ENVIRONMENT, SAFETY, AND HEALTH ITEMS FOR MANAGEMENT ATTENTION

During April 26 - May 5, 1999, the Office of Oversight conducted a review at the YMP, focusing on work planning and control processes used for field work at Area 25. The YMP work planning and control processes were evaluated against the framework of the five core functions of integrated safety management (ISM). Oversight also assessed the current status of ISM implementation at YMP. The four issues identified during the focused review are summarized below. Information from the DOE Corrective Action Tracking System (CATS) database was used to update the action status of items contained in the database. More detailed information on these corrective actions is accessible at **http://tis.eh.doe.gov/portal/ catsentry.html**

Work Control Process

The M&O contractor has not implemented a structured work control process to ensure that hazards are analyzed and controls developed and implemented in the course of all work activities. Improvements were needed in the processes to identify, plan, and document work. The various mechanisms used at YMP to define the work scope and document the work, such as work instructions, were not well integrated and did not consistently ensure that safety and health were adequately considered.

Action Status

A work planning and control procedure is being developed based on lessons learned from the interim field task initiation process (FTIP), benchmarking of other DOE site work control systems, and completion of the standards/ requirements identification document (S/RID)

process. Full procedural development is expected by May 30, 2000.

Directives and Requirements Management

Inconsistencies exist between the YMSCO directives management system and the M&O contractor's requirements management system. YMSCO has not formalized a directives management system that is compatible with the contractor's requirements management system and that describes how directives are processed, received, and approved, and how requirements are contractually invoked. The M&O contractor has not established a requirements management system that provides for the identification, maintenance, and flow of requirements down to the work activity level.

Action Status

A requirements management system and S/RID are being developed to assure the flowdown of requirements to implementing mechanisms. Requirement documents and implementing mechanisms will be linked via a sitewide database system to assure accessibility and configuration control. YMSCO completed S/RID I (requirements applicability) and has initiated S/RID II (requirements traceability). The Requirements Management System is scheduled to be completed by May 30, 2000.

Training Program

The M&O contractor has not implemented a structured process to ensure that personnel receive appropriate training based on hazards and controls associated with assigned responsibilities and consistent with requirements. A training matrix, which correlates training needs to job functions (maintenance, construction, operations), was recently initiated but is far from complete. Of particular concern is that some work activities for which there is no procedural guidance, such as forklifts, hoisting and rigging, and fall protection, also have the weakest training programs. The Mechanical Maintenance Superintendent has developed a forklift program for those who work on the ESF pad. However, the program is not in compliance with Occupational Safety and Health Administration (OSHA) forklift training requirements. Although the M&O contractor offers a hoisting and rigging training program, the training is only an hour in duration, does not address the rigging aspects, and should only be considered an awareness class. The fall protection course does not include a practical exercise requiring students to don body harnesses.

Action Status

As part of the development of the field task initiation process, training requirements are to be defined and confirmed completed prior to the start of work activities. A formal ES&H training strategy has been developed and approved, and implementation is ongoing.

Lockout/Tagout

The M&O lockout/tagout (LOTO) procedure is not consistent with requirements, has not been effectively communicated, does not have the buy-in of the workforce, and is not consistently utilized. The current LOTO procedure has been in effect for approximately seven months, and the employees who would be affected by this procedure have received the required training. However, numerous breakdowns in the use of this procedure were noted, including several failures of the LOTO coordinator and "Authorized Employee" to both apply separate LOTO locks and properly annotate the associated LOTO log entries when installing and removing the LOTO locks and tags. In addition, several LOTO stations still had the superseded LOTO procedure and log sheet and entries in place. Of most concern, two electricians were working in a 480 volt starter panel that was not locked out and tagged out at the open disconnect switch, a violation of the LOTO procedure and OSHA requirements. As a standard practice, movable pieces of construction equipment, such as loaders and muckers, are tagged with a "Do Not Operate" tag hung from the steering wheel when the equipment requires maintenance. The worker whose name appears on the tag operates the

vehicle for maintenance or to conduct a post-maintenance operational run. This is also a violation of the LOTO procedure.

Action Status

Lessons learned from LOTO incidents were communicated via the YMP lessons-learned program and communicated to craft employees. The LOTO procedure was rewritten to be consistent with all requirements, utilizing worker input, and the employees have been trained to the new procedure. Verification of the new process implementation has been completed, with final documentation now in preparation. All corrective actions will be completed by the end of 1999.

Integrated Safety Management

Neither YMSCO nor the M&O contractor has adequately formalized a strategy for implementing ISM. While progress has been made in some areas, ISM at the YMP is in the early stages of development and implementation.

YMSCO has not addressed a number of important issues: ensuring that line organization personnel have sufficient background and knowledge on ISM processes, reviewing and revising existing procedures, incorporating safety considerations into the integrated planning and baseline management system, formalizing the YMSCO directives management system compatible with the M&O contractor's system, and overseeing the development of the M&O contractor's requirements management system.

Another important factor hindering ISM implementation is the lack of an effective requirements management system (i.e., a systematic process for identifying, maintaining, and flowing the requirements down to the working level) within the M&O contractor organization.

Organizational factors within YMSCO also need to be addressed to achieve successful ISM implementation at YMP. Specifically, it is vitally important that the Special Assistant for Safety Management have sufficient authority to ensure that both line and staff organizations adhere to directions related to ISM implementation within YMSCO. In addition, the YMSCO line organization must take ownership for oversight of the M&O contractor's implementation of ISM. Currently, various factions within YMSCO have different philosophies about ISM implementation and the necessary degree of rigor and formality. A common agreement on how ISM is to be implemented is needed to ensure an effective interface between YMSCO and the M&O contractor.

Action Status

A joint YMSCO/M&O ISM strategy committee was established to recommend a revised approach that would ensure verification of an effective ISM system by September 30, 2000. The committee completed its evaluation and developed a comprehensive strategy that was approved by the YMSCO Project Manager on June 1, 1999. The ISM implementation strategy describes the approach, expectations, rigor, integration requirements, and schedules for implementing ISM within YMP and the RW program in general.

The YMP ISM implementation strategy consists of the following main elements: (1) preparation of a safety requirements rocument (SRD) to define, at a high level, safety (including ES&H and nuclear safety) standards, requirements, permit conditions, and program-specific ISM expectations; (2) development of a requirements management system and S/RID to assure the flowdown of requirements to implementing mechanisms; (3) development of a comprehensive work planning and control system to address observed weaknesses; (4) expansion of worker involvement, especially in work planning and control activities; (5) emphasis on training, mentoring, and benchmarking to expand YMSCO's understanding of how successful ISM systems have been developed elsewhere in the DOE complex; (6) integration of ISM with other ongoing efforts to develop a safety and licensing

"culture"; (7) use of an independent review board, consisting of volunteers from other DOE sites, to review progress at key points during ISM development; and (8) documentation of results in the RW functions, responsibilities, and authorities manual and the M&O contractor's ISM system description.

Full ISM implementation and independent verification is scheduled to be completed by September 2000.

ES&H Issue Tracking

No centralized system is in place for integrated tracking of ES&H issues. In the absence of such a system, YMSCO and its M&O contractor rely on a number of tracking systems to manage ES&H issues. The Occupational Surveillance Compliance Reporting (OSCR) system provides for database entry of safety and health surveillance reports. The ES&H assessment program employs a separate database to promote sitewide awareness of issues and corrective action status. Environmental compliance surveillance results are tracked on a third database. As a result, contractor performance in correcting identified ES&H issues cannot always be promptly ascertained, and essential information from trending and lessons learned is more difficult to identify and apply to the development of proactive corrective actions.

Action Status

The M&O contractor has been directed to develop a single, integrated issues identification and tracking system that will include ES&H elements. The M&O contractor is identifying system requirements and confirming scope with YMSCO. Implementation is expected in FY 2000.

RECENT SITE PERFORMANCE

Major Events

Radon Gas in ESF Tunnel

Measured levels of naturally occurring radon gas in the ESF were identified as potentially hazardous to workers. On October 10, 1998, the site reported that levels of radon gas in the ESF were above the OSHA action level of 7.5 picocuries/liter. Although measured levels are below the OSHA exposure level of 30 picocuries/liter, the site is implementing corrective actions to reduce personnel exposure. In late FY 1999, the Department of Human Health Services, U.S. Public Health Service, was contacted to provide advice as to how the radon program could be improved. Preliminary comments indicated the YMP radon program was in compliance with requirements. Several recommendations to improve monitoring and exposure controls are being considered.

Drilling Incident

On June 24, 1999, YMSCO submitted an occurrence report on a near-miss drilling incident, in which a 15 kV conductor in a subsurface duct bank was penetrated. The work was completed without "apparent" incident, and the damage was later discovered during routine maintenance at the controlling substation. The M&O contractor subsequently conducted an accident investigation that revealed a number of deficiencies in management controls and procedure compliance. These are being addressed.

The M&O contractor also suspended site work, other than low-risk activities to gather scientific data, assure ES&H compliance, and maintain timely incident response capabilities. Remaining

work activities were resumed only after integrated work packages and work instructions were developed under a new field task initiation process. This process is being further refined as YMSCO moves toward fuller implementation of ISM.

Results of Major Recent Assessments

Office of Oversight Review

An Office of Oversight focused review was conducted at the Yucca Mountain site April 26 – May 5, 1999. The primary purpose of the review was to provide feedback to line management on the effectiveness of selected work planning and control systems utilizing the framework of the core functions of ISM. The report also summarizes the current status of ISM implementation. The review was performed at the request of YMSCO to obtain feedback early in the process of establishing the site's ISM system. The assessment did not address repository design or planning activities. Results are summarized in the Environment, Safety, and Health Items for Management Attention section of this site profile. Details of this focused review are contained in the report *Independent Oversight Focused Review of the Yucca Mountain Project* (May 1999).

Naturally Occurring Radon Protection Program Assessment

When naturally occurring radon in the ESF was identified as a potential occupational health concern, YMSCO directed the M&O contractor to apply the requirements of 29 CFR 1910.1096, Ionizing Radiation. Accordingly, the M&O contractor developed interim directions while more permanent procedures were being developed. An assessment conducted by the M&O contractor February 1-12, 1999, focusing on the degree of compliance with the interim direction, revealed that while worker protection was not compromised, several coordination and administrative control requirements were not fully implemented. Corrective actions are scheduled for completion by January 31, 2000.

Emergency Management Program

The annual assessment of the YMP emergency management program was conducted in July 1999. A tabletop exercise "Firecracker '99" evaluated the activation of the emergency operations centers and the roles of key personnel. The exercise was well planned, with a credible scenario appropriate to YMP activities. The assessment identified some opportunities for program improvement, but no conditions were identified that would have precluded successful management of an actual emergency. Program strengths highlighted by the assessment included knowledgeable emergency management teams that reacted well to changing conditions, excellent coordination between emergency operations centers, and effective management of public affairs activities. Corrective actions to address assessment findings will be completed by January 31, 2000.

Safety and Health Inspection Process

An M&O contractor assessment on November 9-13, 1998, found numerous line management inspection processes that were not coordinated with other feedback mechanisms and did not incorporate documented closure mechanisms. While these processes found increased line management participation in the assessment process, lack of integration with other systems limited good analysis of feedback information, resulted in duplication of effort, impeded communication of lessons learned, and delayed closure. These issues were resolved as of October 28, 1999 through modification of procedures to assure sitewide use of a single system for safety inspections.

Fire Protection Program

The M&O contractor conducted an assessment February 22-March 16, 1999, to determine whether the YMP fire protection program was in compliance with DOE orders and the Code of Federal Regulations. Findings found deficiencies primarily in inspections, and in roles and responsibilities. A revised fire policy for Area 25

facilities will dictate the actions to be taken in case of fires. Also, the roles and responsibilities of Nevada Test Site personnel who would respond to site fires will be defined. This action will improve communication among emergency personnel. All improvement actions are scheduled for completion by the end of 1999.

Hazard Communication Program

The M&O contractor conducted an assessment March 22-April 2, 1999, to reevaluate the status of hazard communication compliance, provide managers and personnel reasonable assurance that the hazard communication program (HCP) implements the requirements of 29 CFR 1910.1200, and determine whether the requirements are effectively communicated to employees. The assessment revealed that many aspects of the program, in effect since February 1998, needed improvement. In addition, a training program had not been developed to effectively communicate required information to personnel responsible for compliance. Overall, the HCP has not received the attention it requires. Actions to correct these deficiencies will be completed by January 31, 2000.

Electrical Safety Program

An M&O contractor assessment, conducted September 13-October 4, 1999, examined compliance with National Fire Protection Association 70E, "Electrical Safety Requirements for Employee Workplaces." Areas covered included general requirements for electrical work practices, personal/other protective equipment, and specific safety related work practices. It also included a review of documented surveillance reports pertaining to electrical discrepancies. Preliminary analyses indicate several possible findings, all related to the lack of a documented electrical safety program. A formal report will be issued by the end of 1999.

Other Self-Assessments

In addition to the assessments noted above, the M&O contractor also conducted the following assessments during FY 1999: Hazardous Waste Satellite Accumulation Area management, environmental permit compliance, radiation protection program, preventive maintenance program, confined space program Phase II, spill prevention control and countermeasures, and stormwater pollution prevention. Corrective actions have been or are being completed. Open actions will be corrected by the second quarter of FY 2000.